

Notice of Allowability

Application No.

10/651,200

Examiner

Curtis B. Odom

Applicant(s)

LEE ET AL.

Art Unit

2611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Amdt filed on 8/17/07.
2. ☒ The allowed claim(s) is/are 1-14, 16, 17, 19, 20, 22 and 23.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____ |

Response to Arguments

1. Applicant's arguments, see Remarks, filed 8/17/2007, with respect to claims 1 and 9 have been fully considered and are persuasive. The rejection of the above claims has been withdrawn.

Allowable Subject Matter

2. The following is an examiner's statement of reasons for allowance: Claims 1-8 and 22 are allowable over prior art references because related references do not disclose spatially and temporally processing a signal, wherein the temporal processing to detect the random access channel preamble comprises temporally correlating the received uplink signal to output at least one subcorrelation output signal, determining, for each subcorrelation output signal, a decision statistic as the magnitude squared of the subcorrelation output signal, and comparing a maximum of the determined decision statistics to a threshold value, the random access channel preamble of the uplink signal having been detected if the maximum decision statistic meets or exceeds the threshold value. Related references also do not disclose determining the threshold value so that as the number of antenna beams for a given angle of arrival of the received uplink signal increase, the threshold value increases so as to maintain a probability of false alarm over all antenna beams to a desired value, wherein the probability of false alarm is a probability that the uplink signal is falsely detected when no random access channel preamble have been transmitted by the user. Claims 9 and 23 are allowable over prior art references because related references

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do not disclose spatially and temporally processing a signal, wherein the temporal processing to detect the random access channel preamble comprises temporally correlating the received uplink signal to output at least one subcorrelation output signal, determining, for each subcorrelation output signal, a decision statistic as the magnitude squared of the subcorrelation output signal, and comparing a maximum of the determined decision statistics to a threshold value, the random access channel preamble of the uplink signal having been detected if the maximum decision statistic meets or exceeds the threshold value. Related references also do not disclose the detected random access channel is indicative of the best cell portion for communicating with a user, wherein the best cell portion is a portion of a cell where a received uplink signal from the user has a highest signal to interference ratio. Claims 10-14, 16, 17, 19, and 20 are allowable over prior art references because related references do not disclose spatially and temporally processing a signal including a random access channel preamble, wherein spatial processing includes determining a spatially processed signal as a function of an amplitude of the uplink signal transmitted from the user, a user-specific preamble signature sequence, the total number of antennas at the base station receiver, and a channel coefficient of a specified path for a given receive antenna of the receiver, the channel coefficient representing a beam formed by the given receive antenna in a given direction.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."


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Conclusion

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Curtis B. Odom whose telephone number is 571-272-3046. The examiner can normally be reached on Monday- Friday, 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shuwang Liu can be reached on 571-272-3036. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A handwritten signature in black ink, appearing to read 'Curtis Odom', with a long horizontal line extending to the right.

Curtis Odom
August 31, 2007